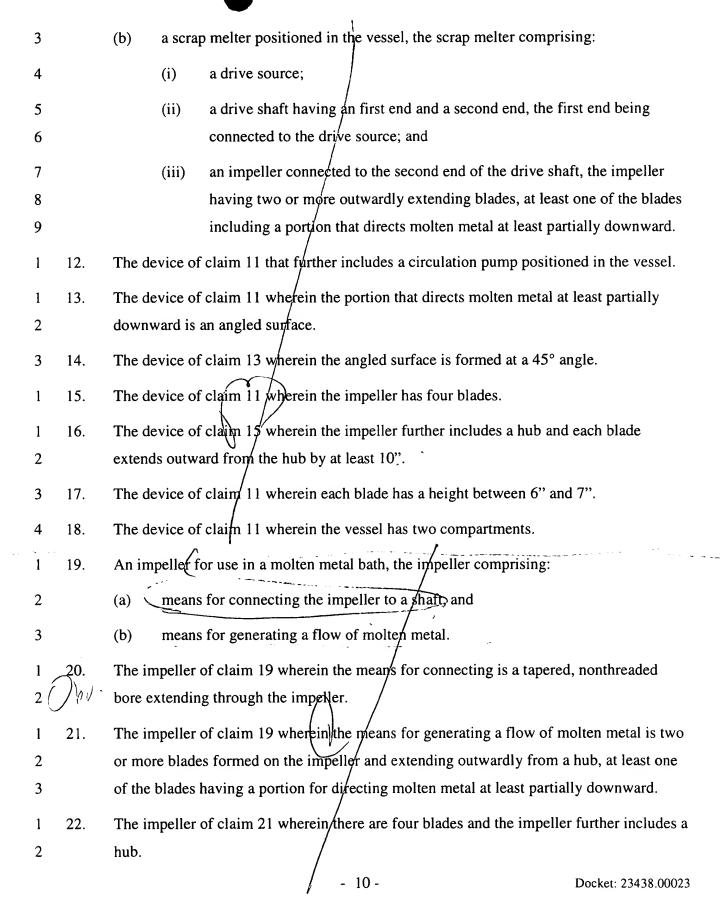
1 What is claimed is:

- 2 1. A device for generating a downward stream of molten metal, the device including:
- 3 (a) a drive source;
- 4 (b) a drive shaft having a first end and a second end, the first end connected to the drive source; and
- an impeller connected to the second end of the drive shaft, the impeller having two or more outwardly extending blades, at least one blade including a portion that directs molten metal at least partially downward.
- 1 2. The device of claim 1 wherein the impeller has four blades.
- The device of claim 1 wherein a connective portion is formed in the impeller, the connective portion connecting the impeller to the drive shaft, the connective portion comprising a tapered, nonthreaded bore extending through the impeller.
- The device of claim 3 which further includes a nut and wherein the second end of the drive shaft has a threaded section that is positioned beneath the impeller; the nut being threaded onto the threaded section to connect the impeller to the drive shaft.
- The device of claim 1 wherein the portion that directs molten metal at least partially downward is an angled surface.
- 6 6. The device of claim 1 wherein each blade includes a portion that directs molten metal at least partially downward.
- 1 7. The device of claim 1 wherein the impeller has an overall length of at least 28".
- 2 8. The device of claim 2 wherein the impeller has an overall length of at least 28" and an overall width of at least 28".
- 4 9. The device of claim 1 wherein each blade has a height of between 6" and 7".
- 1 10. The device of claim 5 wherein the angled surface is formed at a 45° angle.
- 1 11. A device for melting scrap metal, the device comprising:
- 2 (a) a vessel containing molten metal; and



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The impeller of claim 21 wherein at least one of the portions for directing molten metal at 1 23. least partially downward is an angled surface. 2 The impeller of claim 22 wherein each of the blades extends outward from the hub by at 1 24. least ten inches. 2 25. A drive shaft used in a device for displacing molten metal, the drive shaft comprising: 1 a first end; and 2 (a) 3 (b) a second end, the second end configured to connect to an impeller and having a tapered portion and a threaded portion juxtaposed the tapered portion 4 whereby the threaded portion is positioned beneath the impeller when the drive shaft is 5 NAG connected to the impeller. 6 A device for generating a downward stream of molten metal, the device including: 26. 1 2 (c) a drive source; a drive shaft having a first end and a second end, the first end connected to the 3 (d) 4 drive source; and 5 an impeller connected to the second end of the drive shaft, the impeller having (e) 6 two or more outwardly extending blades, at least one blade including a vertical 7 face that directs molten metal at outward from the impeller. 27. The device of claim 26 wherein the impeller has four blades. 1 The impeller of claim 27 wherein the impeller is in the shape of a cross. 28. 1 The device of claim 26 where in the vertical face of each blade is at least 6 inches in 1 29. 2 height. The device of claim 26 wherein the vertical face of each blade is more than 4 inches in 1 30. 2 height.

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